

Exhibit 4

Not Converted to TIFF

Direct Fix Track							
			\$2,014				
	LF	Unit Cost	Total Hard Cost	Total Soft Cost	Total Cost	Escalation	Grand Total
ERT 1	12,913	\$ 2,590	\$ 33,441,971			\$ 19,212,124	\$ 52,654,096
ERT 2	12,013	\$ 2,590	\$ 31,111,160			\$ 20,569,608	\$ 51,680,767
NRT S	13,480	\$ 2,590	\$ 34,910,383			\$ 40,151,592	\$ 75,061,975
NRT N	13,480	\$ 2,590	\$ 34,910,383			\$ 44,703,897	\$ 79,614,280
			\$ 134,373,897			\$ 124,637,221	\$ 259,011,118

Direct Fix Track							
			\$2,014				
	LF	Unit Cost	Total Hard Cost	Total Soft Cost	Total Cost	Escalation	Grand Total
ERT 1	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
ERT 2	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
NRT S	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
NRT N	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
			#REF!	#REF!	#REF!	#REF!	#REF!

Direct Fix Track							
			\$2,014				
	LF	Unit Cost	Total Hard Cost	Total Soft Cost	Total Cost	Escalation	Grand Total
ERT 1	#REF!	#REF!	#REF!			#REF!	#REF!
ERT 2	#REF!	#REF!	#REF!			#REF!	#REF!
NRT S	#REF!	#REF!	#REF!			#REF!	#REF!
NRT N	#REF!	#REF!	#REF!			#REF!	#REF!
			#REF!			#REF!	#REF!

Scenario 1 - 24/7						
Demo Bench						
		\$2,014				
LF	Unit Cost	Total Hard Cost	Total Soft Cost	Total Cost	Escalation	Grand Total
25,826	\$ 1,426	\$ 36,824,200			\$ 21,155,185	\$ 57,979,385
24,026	\$ 1,426	\$ 34,257,656			\$ 22,649,961	\$ 56,907,617
26,960	\$ 1,426	\$ 38,441,123			\$ 44,212,414	\$ 82,653,536
26,960	\$ 1,426	\$ 38,441,123			\$ 49,225,126	\$ 87,666,249
		\$ 147,964,101			\$ 137,242,686	\$ 285,206,787

Scenario 2 -26 weekends per year						
Demo Bench						
LF	Unit Cost	Total Cost			Escalation	Grand Total
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!		#REF!			#REF!	

Scenario 2 -15 weekends per year						
Demo Bench						
LF	Unit Cost	Total Cost			Escalation	Grand Total
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!		#REF!			#REF!	

New Bench						
		\$2,014				
LF	Unit Cost	Total Hard Cost	Total Soft Cost	Total Cost	Escalation	Grand Total
25,826	\$ 1,808	\$ 46,696,393			\$ 26,826,675	\$ 73,523,068
24,026	\$ 1,808	\$ 43,441,785			\$ 28,722,185	\$ 72,163,969
26,960	\$ 1,808	\$ 48,746,796			\$ 56,065,311	\$ 104,812,107
26,960	\$ 1,808	\$ 48,746,796			\$ 62,421,881	\$ 111,168,676
		\$ 187,631,769			\$ 174,036,051	\$ 361,667,821

New Bench						
LF	Unit Cost	Total Cost			Escalation	Grand Total
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
		#REF!			#REF!	#REF!

New Bench						
LF	Unit Cost	Total Cost			Escalation	Grand Total
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
#REF!	#REF!	#REF!			#REF!	#REF!
		#REF!			#REF!	#REF!

Total Cost	Total Escalation	Grand Total
\$ 116,962,564	\$ 67,193,984	\$ 184,156,548
\$ 108,810,601	\$ 71,941,753	\$ 180,752,353
\$ 122,098,301	\$ 140,429,317	\$ 262,527,619
\$ 122,098,301	\$ 156,350,904	\$ 278,449,205
\$ 469,969,768	\$ 435,915,958	\$ 905,885,726

Total Cost	Total Escalation	Grand Total
#REF!	#REF!	#REF!
#REF!	#REF!	#REF!

Total Cost	Total Escalation	Grand Total
#REF!	#REF!	#REF!
#REF!	#REF!	#REF!

Basis Year 2014	28,503 313	Scenario 1																																			
Scenario 1 Scenario 1																																					
Weeks Years																																					
91 2 Tunnel \$ Crack and Delamination Repair Escalation Start Date End Date Midpoint Escalation Duration Escalation (3.5%/Year) Station Station Length Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage) Units No. Shifts No. Weeks No. Weekends \$ 2,014 Unit Cost (TF) Total Cost Escalated to Midpoint Escalation																																					
ERT 1	\$ -	2019	2021	2020	6.0	122.9%			8,760	1,200	TF/Week	7.3	\$ 2,590	\$ 22,686,569	\$ 3,184	\$ 27,887,585	\$ 5,201,017																				
ERT 2	\$ -	2019	2021	2020	6.0	122.9%			7563	\$ 1,200	TF/Week	6.3	\$ 2,590	\$ 19,586,589	\$ 3,184	\$ 24,076,919	\$ 4,490,330																				
NRT S	\$ -	2028	2030	2029	15.0	167.5%			6300	\$ 1,200	TF/Week	5.3	\$ 2,590	\$ 16,315,683	\$ 4,339	\$ 27,334,460	\$ 11,018,777																				
NRT N	\$ -	2028	2030	2029	15.0	167.5%			5880	\$ 1,200	TF/Week	4.9	\$ 2,590	\$ 15,227,971	\$ 4,339	\$ 25,512,163	\$ 10,284,192																				
	\$ -								28,503					\$ 73,816,811		\$ 104,811,128	\$ 30,994,316																				
ERT 1	\$ -	2021	2022.4	2021.72	7.7	130.4%			4,153	1,200	TF/Week	3.5	\$ 2,590	\$ 10,755,402	\$ 3,378	\$ 14,027,043	\$ 3,271,642																				
ERT 2	\$ -	2021	2022.4	2021.72	7.7	130.4%			4450	\$ 1,200	TF/Week	3.7	\$ 2,590	\$ 11,524,570	\$ 3,378	\$ 15,030,181	\$ 3,505,612																				
NRT S	\$ -	2030	2031.4	2030.72	16.7	177.7%			7180	\$ 1,200	TF/Week	6.0	\$ 2,590	\$ 18,594,699	\$ 4,603	\$ 33,051,548	\$ 14,456,849																				
NRT N	\$ -	2030	2031.4	2030.72	16.7	177.7%			7600	\$ 1,200	TF/Week	6.3	\$ 2,590	\$ 19,682,411	\$ 4,603	\$ 34,984,925	\$ 15,302,514																				
	\$ -								23,383					\$ 60,557,082	\$ 4,152	\$ 97,093,698	\$ 36,536,616																				
ERT 1	\$ -								12,913	1,200	TF/Week	10.8	\$ 2,590	\$ 33,441,971	\$ 3,246	\$ 41,914,629	\$ 8,472,658																				
ERT 2	\$ -								12013	\$ 1,200	TF/Week	10.0	\$ 2,590	\$ 31,111,159	\$ 3,255	\$ 39,107,100	\$ 7,995,941																				
NRT S	\$ -								13480	\$ 1,200	TF/Week	11.2	\$ 2,590	\$ 34,910,382	\$ 4,480	\$ 60,386,008	\$ 25,475,626																				
NRT N	\$ -								13480	\$ 1,200	TF/Week	11.2	\$ 2,590	\$ 34,910,382	\$ 4,488	\$ 60,497,088	\$ 25,586,706																				
	\$ -													\$ 134,373,893		\$ 201,904,825	\$ 67,530,932																				

Basis Year 2014	28,503 313	Scenario 1																																	
		Scenario 1																																	
"A"- Damaged Lengths of Tunnels																																			
Bench Wall Demo																																			
Weeks	91																																		
Years	2																																		
Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014		Escalated to Midpoint		Escalation																	
ERT 1	2019	2021	2020	6.0	122.9%			8940	960 LF/Week		9.3	\$ 1,426	\$ 12,747,168	\$ 1,753	\$ 15,669,524	\$ 2,922,357																			
ERT 2	2019	2021	2020	6.0	122.9%			8722	960 LF/Week		9.1	\$ 1,426	\$ 12,436,331	\$ 1,753	\$ 15,287,426	\$ 2,851,093																			
NRT S	2028	2030	2029	15.0	167.5%			6194	960 LF/Week		6.5	\$ 1,426	\$ 8,831,762	\$ 2,389	\$ 14,796,283	\$ 5,964,521																			
NRT N	2028	2030	2029	15.0	167.5%			5600	960 LF/Week		5.8	\$ 1,426	\$ 7,984,803	\$ 2,389	\$ 13,377,330	\$ 5,392,521																			
															\$ 42,000,063		\$ 59,130,562	\$ 17,130,493																	
"B" - Remaining Length of Tunnels																																			
Weeks	74.65																																		
Years	1.44																																		
Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014		Escalated to Midpoint		Escalation																	
ERT 1	2021	2022.4	2021.72	7.7	130.4%			16886	960 LF/Week		17.6	\$ 1,426	\$ 24,077,033	\$ 1,860	\$ 31,400,926	\$ 7,323,893																			
ERT 2	2021	2022.44	2021.72	7.7	130.4%			15304	960 LF/Week		15.9	\$ 1,426	\$ 21,821,326	\$ 1,860	\$ 28,459,065	\$ 6,637,743																			
NRT S	2030	2031.44	2030.72	16.7	177.7%			20766	960 LF/Week		21.6	\$ 1,426	\$ 29,609,360	\$ 2,534	\$ 52,629,794	\$ 23,020,433																			
NRT N	2030	2031.44	2030.72	16.7	177.7%			21360	960 LF/Week		22.3	\$ 1,426	\$ 30,456,320	\$ 2,534	\$ 54,135,241	\$ 23,678,921																			
															\$ 105,964,038		\$ 166,625,026	\$ 60,660,983																	
"A+B" - Full Length of Tunnels																																			
Weeks	165.65																																		
Years	3.19																																		
Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014		Escalated to Midpoint		Escalation																	
ERT 1								25826	960 LF/Week		26.9	\$ 1,426	\$ 36,824,200	\$ 1,823	\$ 47,070,450	\$ 10,246,251																			
ERT 2								24026	960 LF/Week		25.0	\$ 1,426	\$ 34,257,656	\$ 1,821	\$ 43,746,491	\$ 9,488,831																			
NRT S								26960	960 LF/Week		28.1	\$ 1,426	\$ 38,441,123	\$ 2,501	\$ 67,426,077	\$ 28,984,951																			
NRT N								26960	960 LF/Week		28.1	\$ 1,426	\$ 38,441,123	\$ 2,504	\$ 67,512,571	\$ 29,071,441																			
															\$ 147,964,101		\$ 225,755,589	\$ 77,791,481																	

Basis Year 2014	28,503 313	Scenario 1																	
Weeks Years	91	Bench Wall New																	
	2	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014	Escalated to Midpoint	Escalation	
		ERT 1	2019	2021	2020	6.0	122.9%			8940	700 LF/Week		12.8	\$ 1,808	\$ 16,164,553	\$ 2,223	\$ 19,870,363	\$ 3,705,810	
		ERT 2	2019	2021	2020	6.0	122.9%			8722	700 LF/Week		12.5	\$ 1,808	\$ 15,770,384	\$ 2,223	\$ 19,385,829	\$ 3,615,445	
		NRT S	2028	2030	2029	15.0	167.5%			6194	700 LF/Week		8.8	\$ 1,808	\$ 11,199,468	\$ 3,029	\$ 18,763,015	\$ 7,563,548	
		NRT N	2028	2030	2029	15.0	167.5%			5600	700 LF/Week		8.0	\$ 1,808	\$ 10,125,447	\$ 3,029	\$ 16,963,656	\$ 6,838,209	
															\$ 53,259,852		\$ 74,982,863	\$ 21,723,011	
Weeks Years	74.65	Bench Wall New																	
	1.44	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014	Escalated to Midpoint	Escalation	
		ERT 1	2021	2022.4	2021.72	7.7	130.4%			16886	700 LF/Week		24.1	\$ 1,808	\$ 30,531,840	\$ 2,358	\$ 39,819,195	\$ 9,287,355	
		ERT 2	2021	2022.44	2021.72	7.7	130.4%			15304	700 LF/Week		21.9	\$ 1,808	\$ 27,671,401	\$ 2,358	\$ 36,088,651	\$ 8,417,250	
		NRT S	2030	2031.44	2030.72	16.7	177.7%			20766	700 LF/Week		29.7	\$ 1,808	\$ 37,547,328	\$ 3,214	\$ 66,739,306	\$ 29,191,978	
		NRT N	2030	2031.44	2030.72	16.7	177.7%			21360	700 LF/Week		30.5	\$ 1,808	\$ 38,621,349	\$ 3,214	\$ 68,648,347	\$ 30,026,998	
															\$ 134,371,917		\$ 211,295,498	\$ 76,923,581	
Weeks Years	165.65	Bench Wall New																	
	3.19	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014	Escalated to Midpoint	Escalation	
		ERT 1								25826	700 LF/Week		36.9	\$ 1,808	\$ 46,696,393	\$ 2,311	\$ 59,689,558	\$ 12,993,165	
		ERT 2								24026	700 LF/Week		34.3	\$ 1,808	\$ 43,441,785	\$ 2,309	\$ 55,474,479	\$ 12,032,694	
		NRT S								26960	700 LF/Week		38.5	\$ 1,808	\$ 48,746,796	\$ 3,171	\$ 85,502,321	\$ 36,755,525	
		NRT N								26960	700 LF/Week		38.5	\$ 1,808	\$ 48,746,796	\$ 3,176	\$ 85,612,003	\$ 36,865,207	
															\$ 187,631,769		\$ 286,278,361	\$ 98,646,592	

Basis Year 2014	28,503 313	Scenario 1	Scenario 1
Weeks	91		
Years	2	\$2014	Escalated
Tunnel		Total Cost	Escalation
ERT 1		\$ 51,598,289	\$ 63,427,472
ERT 2		\$ 47,793,304	\$ 58,750,173
NRT S		\$ 36,346,913	\$ 60,893,759
NRT N		\$ 33,338,221	\$ 55,853,149
		\$ 169,076,727	\$ 238,924,553
			\$ 69,847,826
Weeks	74.65		
Years	1.44	\$2014	Escalated
Tunnel		Total Cost	Escalation
ERT 1		\$ 65,364,274	\$ 85,247,164
ERT 2		\$ 61,017,296	\$ 79,577,897
NRT S		\$ 85,751,387	\$ 152,420,648
NRT N		\$ 88,760,080	\$ 157,768,513
		\$ 300,893,037	\$ 475,014,222
			\$ 174,121,185
Weeks	165.65		
Years	3.19	\$2014	Escalated
Tunnel		Total Cost	Escalation
ERT 1		\$ 116,962,563	\$ 148,674,637
ERT 2		\$ 108,810,600	\$ 138,328,070
NRT S		\$ 122,098,301	\$ 213,314,406
NRT N		\$ 122,098,301	\$ 213,621,662
		\$ 469,969,764	\$ 713,938,775
		TRUE	TRUE
			TRUE

Scenario	Description	Construction Start	Duration - Years		Estimated Completion		ERTs - Cost		NRTs - Cost		
			ERT	NRT	ERT	NRT	2014 - \$'s	Escalated	2014 - \$'s	Escalated	
24/7	ESTs & NRTs full closure (Portal to Portal)	ERT-2016 NRT-2025	3.1	3.3	2019.1	2028.4	334,591,000	Mid-Point Construction @ 3.5%/yr	377,055,000	354,607,000	546,572,000

Cost Summary		
Scenario	2014 - \$'s	Escalated
24/7	689,198,000	923,627,000

asis Year 2014		Scenario 1																		
		Power Washing																		
Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2,014				Escalated to Midpoint		Escalation
	ERT 1	2015	2015	2015	1	103.5%		4,470	1200 TF/Week			3.73	\$ 425.00	\$ 1,899,750	\$ 816,893	\$ 2,716,643	\$ 629	\$ 2,811,725	\$ 95,082.49	
83 Weeks	ERT 2	2015	2015	2015	1	103.5%		4361	1200 TF/Week			3.63	\$ 425.00	\$ 1,853,425	\$ 796,973	\$ 2,650,398	\$ 629	\$ 2,743,162	\$ 92,763.92	
79 Weeks	NRT 5	2015	2015	2015	1	103.5%		3097	1200 TF/Week			2.58	\$ 425.00	\$ 1,316,225	\$ 565,977	\$ 1,882,202	\$ 629	\$ 1,948,079	\$ 65,877.06	
89 Weeks	NRT N	2015	2015	2015	1	103.5%		2800	1200 TF/Week			2.33	\$ 425.00	\$ 1,190,000	\$ 511,700	\$ 1,701,700	\$ 629	\$ 1,761,260	\$ 59,559	
340														\$ 6,259,400					\$ 9,264,225	\$ 313,283

Basis Year 2014	51,886 153	Scenario 1																		
	Crack and Delamination Repair																			
	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2,014				Escalated to Midpoint	Escalation
		ERT 1	2015	2015	2015	1	103.5%		2,628	1200 TF/Weekend			2.19	\$ 850.00	\$ 2,233,800	\$ 960,534	\$ 3,194,334	\$ 1,258	\$ 3,306,136	\$ 111,801.65
83 Weeks	ERT 2	2015	2015	2015	1	103.5%		2611	1200 TF/Weekend			2.18	\$ 850.00	\$ 2,219,350	\$ 954,321	\$ 3,173,671	\$ 1,258	\$ 3,284,749	\$ 111,078.47	
79 Weeks	NRT S	2015	2015	2015	1	103.5%		1194	1200 TF/Weekend			1.00	\$ 850.00	\$ 1,014,900	\$ 436,407	\$ 1,451,307	\$ 1,258	\$ 1,502,103	\$ 50,795.74	
89 Weeks	NRT N	2015	2015	2015	1	103.5%		305	1200 TF/Weekend			0.25	\$ 850.00	\$ 259,250	\$ 111,478	\$ 370,728	\$ 1,258	\$ 383,703	\$ 12,979.00	
340								6,738							\$ 5,727,300	\$ 2,462,739	\$ 8,190,039		\$ 8,476,690	\$ 286,651.00

Basis Year 2014	51,886 153	Scenario 1																			
		Portal to Portal Full Length Repairs																			
		Direct Fixation (D.F.) Track																			
Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week)	Units	No. Shifts	No. Weeks	No. Weekends	\$ 2,014	Unit Cost (TF)	Total Hard Cost	Total Soft Cost (43%)	Total Cost	Escalated to Midpoint	Escalation	
ERT 1	2016	2018	2,016.8	2.8	110.1%			12,913	1,200 TF/Week		10.8				\$ 2,590	\$ 33,441,971	\$ 14,380,048	\$ 47,822,019	\$ 4,078	\$ 52,654,096	\$ 19,212,124
ERT 2	2018	2019	2,018.4	4.4	116.2%			12013	\$ 1,200 TF/Week		10.0				\$ 2,590	\$ 31,111,160	\$ 13,377,799	\$ 44,488,958	\$ 4,302	\$ 51,680,767	\$ 20,569,608
NRT S	2025	2027	2,025.9	11.9	150.4%			13480	\$ 1,200 TF/Week		11.2				\$ 2,590	\$ 34,910,383	\$ 15,011,465	\$ 49,921,848	\$ 5,568	\$ 75,061,975	\$ 40,151,592
NRT N	2027	2028	2,027.6	13.6	159.5%			13480	\$ 1,200 TF/Week		11.2				\$ 2,590	\$ 34,910,383	\$ 15,011,465	\$ 49,921,848	\$ 5,906	\$ 79,614,280	\$ 44,703,897
340						51,886										\$ 134,373,897					\$ 259,011,118 \$ 124,637,221

Basis Year 2014	51,886 153	Scenario 1																		
	Bench Wall Demo																			
	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Shifts	No. Weeks	No. Weekends	\$2014					Escalation
		Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Station	Station	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)					Unit Cost (Bench LF)	Total Hard Cost	Total Soft Cost (43%)	Total Cost	Unit Cost	Total Cost
83 Weeks ERT 1	ERT 1	2016	2018	2016.798	2.8	110.1%			25,826	960 LF/Week		26.9	\$ 1,426	\$ 36,824,200	\$ 15,834,406	\$ 52,658,606	\$ 2,245	\$ 57,979,385	\$ 21,155,185	
79 Weeks ERT 2	ERT 2	2018	2019	2018.356	4.4	116.2%			24,026	960 LF/Week		25.0	\$ 1,426	\$ 34,257,656	\$ 14,730,792	\$ 48,988,448	\$ 2,369	\$ 56,907,617	\$ 22,649,961	
89 Weeks NRT S	NRT S	2025	2027	2025.856	11.9	150.4%			26960	960 LF/Week		28.1	\$ 1,426	\$ 38,441,123	\$ 16,529,683	\$ 54,970,805	\$ 3,066	\$ 82,653,536	\$ 44,212,414	
89 Weeks NRT N	NRT N	2027	2028	2027.567	13.6	159.5%			26960	960 LF/Week		28.1	\$ 1,426	\$ 38,441,123	\$ 16,529,683	\$ 54,970,805	\$ 3,252	\$ 87,666,249	\$ 49,225,126	
340																\$ 147,964,101		\$ 285,206,787	\$ 137,242,686	

Basis Year 2014	51,886 153	Scenario 1														
Tunnel	Bench Wall New															
	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Weeks	\$2014				Escalated to Midpoint		Escalation
	Tunnel	Start Date	End Date	Midpoint	Escalation Duration	3.50% Escalation (3.5%/Year)	Length	Production Rate (6 Shifts per weekend and 21 Shifts/Week per 24/7 Outage)	Units	No. Weeks	Unit Cost (Bench LF)	Total Hard Cost	Total Soft Cost (43%)	Total Cost	Unit Cost	Total Cost
83 Weeks	ERT 1	2016	2018	2016.798	2.8	110.1%	25826	700 LF/Week	36.9	\$ 1,808	\$ 46,696,393	\$ 20,079,449	\$ 66,775,842	\$ 2,847	\$ 73,523,068	\$ 26,826,675
79 Weeks	ERT 2	2018	2019	2018.356	4.4	116.2%	24026	700 LF/Week	34.3	\$ 1,808	\$ 43,441,785	\$ 18,679,967	\$ 62,121,752	\$ 3,004	\$ 72,163,969	\$ 28,722,185
89 Weeks	NRT S	2025	2027	2025.856	11.9	150.4%	26960	700 LF/Week	38.5	\$ 1,808	\$ 48,746,796	\$ 20,961,122	\$ 69,707,918	\$ 3,888	\$ 104,812,107	\$ 56,065,311
89 Weeks	NRT N	2027	2028	2027.567	13.6	159.5%	26960	700 LF/Week	38.5	\$ 1,808	\$ 48,746,796	\$ 20,961,122	\$ 69,707,918	\$ 4,123	\$ 111,168,676	\$ 62,421,881
340											\$ 187,631,769			\$ 361,667,821	\$ 174,036,051	

Basis Year 2014		Scenario 1			
		TOTALS			
Tunnel	\$2014		Escalated	Escalation	
	Total Hard Cost	Total Soft Cost (43%)	Total Cost	Total Escalated Cost	\$
ERT 1	\$ 121,096,114	\$ 52,071,329	\$ 173,167,443	\$ 190,274,409	\$ 17,106,966
ERT 2	\$ 112,883,376	\$ 48,539,851	\$ 161,423,227	\$ 186,780,264	\$ 25,357,037
NRT S	\$ 124,429,426	\$ 53,504,653	\$ 177,934,080	\$ 265,977,800	\$ 88,043,720
NRT N	\$ 123,547,551	\$ 53,125,447	\$ 176,672,999	\$ 280,594,168	\$ 103,921,169
340	\$ 481,956,468	\$ 207,241,281	\$ 689,197,749	\$ 923,626,641	\$ 234,428,892

Tunnel	Inundated Length-LF	Length to Portal-LF for D.F.						Direct Fixation (D.F.) Track	Bench Wall Replacement
ERT Line 1	4,206	8,760	535	257	\$2,250,000	\$832	3,500,000	\$35,040,000	\$33,600,000
ERT Line 2	4,061	7,800	517	269	\$2,100,000	\$862	3,500,000	\$31,200,000	\$32,800,000
NRT- North	3,097	6,300	242	119	\$750,000	\$504	1,560,000	\$12,388,000	\$27,000,000
NRT- South	2,314	5,880	270	106	\$625,000	\$173	400,000	\$9,256,000	\$21,200,000
Subtotals	13,678	28,740			\$5,725,000		\$8,960,000	\$87,884,000	\$114,600,000
Soft Costs*	NA	NA			\$1,030,500		\$1,612,800	\$15,819,120	\$20,628,000
Force Protection**	NA	NA			\$1,431,250		\$2,240,000	\$21,971,000	\$28,650,000
Totals	NA	NA			\$8,186,750		\$12,812,800	\$125,674,120	\$163,878,000
Grand Total					\$310,551,670				
Range					\$300 to \$325 Million				

* 10% Engineering + 8% Construction Management

** Force Protection 25%

Direct Fixation \$/LF 4000

Schedule D.F. 81 28740/(2*177)
Schedule Bench Walls

PROJECT: AMTRAK TUNNEL CLEANING
NEW YORK, NEW YORK

EST BY: JCK DATE: 8/28/2011
CKD BY: DC DATE: 8/28/2011

Sandy Impacted Lengths			Entire Tunnel							
Bench Wall (One Side) L.F.	Direct Fixation - T.F.	Bench Wall (Two Sides) LF	Tunnel Full Length* Bench Wall-one side D.F. - T.F.	Bench Full Length	Additional Bench		Sta	Sta	Manhattan L.F.	
ERT 1	4,470	8,760	8,940	12,913	25,826	16,886		10,813	2,700	4,800
ERT 2	4,361	7,563	8,722	12,013	24,026	15,304		10,813	3,600	4,800
NRT S	3,097	6,300	6,194	13,480	26,960	20,766		32,500	19,020	
NRT N	2,800	5,880	5,600	13,480	26,960	21,360		32,500	19,020	

8,113

7,213

13,480

13,480

PROJECT: AMTRAK TUNNEL CLEANING
NEW YORK, NEW YORK

EST BY: JCK DATE: 8/4/2014
CKD BY: DC DATE: 8/4/2014

ITEM NO.	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBS		TOTAL COST		TOTAL BID COST		
				UNIT COST	MHRS	MHF	\$/HR	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	
Demo	BENCHWALL DEMOLITION	18,616	CY	\$483.48	53,516.02	2.87	\$168.18	\$9,000,521	\$63.59	\$1,183,774	\$164.62	\$3,064,525	\$0.00	\$0.00	\$711.69	\$13,248,820.20	\$1,295.92	\$24,124,909.20	
Demo	EXISTING CABLE REMOVAL	60,532	LF	\$10.87	4,896.00	0.08	\$134.38	\$657,900	-\$5.87	-\$355,315	\$0.00	\$0.00	\$0.00	\$0.00	\$5.00	\$302,585.00	\$9.10	\$550,980.05	
Demo	TEMPORARY CONDUIT	60,532	LF	\$19.36	9,696.00	0.16	\$120.83	\$1,171,600	\$8.30	\$502,470	\$0.00	\$0.00	\$0.00	\$0.00	\$27.66	\$1,674,070.00	\$50.36	\$3,048,330.80	
Demo	TEMPORARY CABLE	60,532	LF	\$22.48	10,128.00	0.17	\$134.38	\$1,360,950	\$120.05	\$7,266,745	\$0.00	\$0.00	\$0.00	\$0.00	\$142.53	\$8,627,695.00	\$259.54	\$15,710,256.10	
New	PERMANENT CONDUIT	121,064	LF	\$12.94	12,960.00	0.11	\$120.83	\$1,566,000	\$8.04	\$972,780	\$0.00	\$0.00	\$0.00	\$0.00	\$20.97	\$2,538,780.00	\$38.19	\$4,622,889.89	
New	DRILL & GROUT REBAR	30,461	LF	\$43.33	12,320.00	0.40	\$107.14	\$1,320,000	\$3.53	\$107,383	\$0.00	\$0.00	\$0.00	\$0.00	\$46.86	\$1,427,382.88	\$85.33	\$2,599,135.77	
New	REINFORCING STEEL	2,792,400	LB	\$3.18	83,200.00	0.03	\$106.73	\$8,880,000	\$0.90	\$2,510,300	\$0.00	\$0.00	\$0.00	\$0.00	\$4.08	\$11,390,300.00	\$7.43	\$20,740,711.17	
New	FORMWORK	182,772	SF	\$18.05	27,360.00	0.15	\$120.56	\$3,298,400	\$1.35	\$246,463	\$0.00	\$0.00	\$0.00	\$0.00	\$19.40	\$3,544,863.20	\$35.32	\$6,454,876.85	
New	CONCRETE	18,616	CY	\$343.95	51,089.60	2.74	\$125.33	\$6,402,924	\$246.81	\$4,594,662	\$18.75	\$349,050	\$0.00	\$0.00	\$609.51	\$11,346,636.00	\$1,109.86	\$20,661,202.96	
															TOTAL ESTIMATED CONSTRUCTION COST				
															GENERAL CONDITIONS	15.00%	\$54,101,132.29		
																	\$8,115,169.84		
															SUBTOTAL	OVERHEAD & PROFIT	20.00%	\$62,216,302.13	
																		\$12,443,260.43	
															SUBTOTAL	SUBGUARD	1.5%	\$74,659,562.56	
															SUBTOTAL	CONTINGENCY	30%	\$75,779,455.99	
																		\$22,733,836.80	
															TOTAL PROJECTED BID		\$98,513,292.79		

Notes:

Benchwall is 33 SF per Track Foot

Demo = 15,231 TF * 33 SF/TF = 18,616 CY (Same for Concrete)

Reinforcing = 150 PCY = 18,616 * 150 = 2,792,400 #

Formwork = 30,462 LF * 6 FT Height = 182,772 SF

ERT #1	4,470	TF	\$6,468	\$ 28,911,721
ERT #2	4,361	TF	\$6,468	\$ 28,206,715
NRT- NORTH	3,600	TF	\$6,468	\$ 23,284,607
NRT - SOUTH	2,800	TF	\$6,468	\$ 18,110,250
TOTAL COST				\$ 98,513,293

**PROJECT: AMTRAK TUNNEL CLEANING
NEW YORK, NEW YORK**

EST BY: JCK DATE: 8/4/2014
CKD BY: DC DATE: 8/4/2014

ITEM NO.	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBS		TOTAL COST		TOTAL BID COST	
				UNIT COST	MHRS	MHF	\$/HR	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL						

Track & Ballast Replacement

**PROJECT: AMTRAK TUNNEL CLEANING
NEW YORK, NEW YORK**

EST BY: JCK DATE: 8/4/2014
CKD BY: DC DATE: 8/4/2014

Notes:
Benchwall is 33 SF per Track Foot
 $\text{Demo} = 15,231 \text{ TF} * 33 \text{ SF/TF} = 18,616 \text{ CY}$ (Same for Concrete)
Reinforcing = 150 PCY = $18,616 * 150 = 2,792,400 \text{ #}$
Formwork = $30,462 \text{ LF} * 6 \text{ FT Height} = 182,772 \text{ SF}$

	15,231	TF	\$6,913
ERT #1	4,470	TF	\$6,913 \$ 30,900,182
ERT #2	4,361	TF	\$6,913 \$ 30,146,688
NRT- NORTH	3,600	TF	\$6,913 \$ 24,886,053
NRT - SOUTH	2,800	TF	\$6,913 \$ 19,355,819
			TOTAL COST \$ 105,288,741

PROJECT: AMTRAK TUNNEL CLEANING
NEW YORK, NEW YORK

EST BY: JCK DATE: 8/4/2014
CKD BY: DC DATE: 8/4/2014

ITEM NO.	DESCRIPTION	QTY	UNIT	LABOR					MATERIAL		EQUIPMENT		SUBS		TOTAL COST		TOTAL BID COST	
				UNIT COST	MHRS	MHF	\$/HR	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
Track & Ballast Replacement																		
TRACK & BALLAST REPLACEMENT	28,740	TF		\$957.40	122,086.33	4.25	\$225.38	\$27,515,661	\$888.92	\$25,547,686	\$155.06	\$4,456,471	\$0.00	\$0.00	\$2,001.39	\$57,519,817.38	\$3,644.34	\$104,738,410.66
															TOTAL ESTIMATED CONSTRUCTION COST			
															GENERAL CONDITIONS			
															15.00%			
															\$57,519,817.38			
															\$8,627,972.61			
															SUBTOTAL			
															OVERHEAD & PROFIT			
															20.00%			
															\$66,147,789.98			
															\$13,229,558.00			
															SUBTOTAL			
															SUBGUARD			
															1.5%			
															\$79,377,347.98			
															\$1,190,660.22			
															SUBTOTAL			
															CONTINGENCY			
															30%			
															\$80,568,008.20			
															\$24,170,402.46			
															TOTAL PROJECTED BID			
															\$104,738,410.66			
															28,740			
															TF			
															\$3,644			
															ERT #1			
															8,760			
															TF			
															\$3,644			
															ERT #2			
															7,800			
															TF			
															\$3,644			
															NRT- NORTH			
															6,300			
															TF			
															\$3,644			
															NRT - SOUTH			
															5,880			
															TF			
															\$3,644			
															TOTAL COST			
															\$ 104,738,411			